

AFRL development benefits future flight

by Melissa Withrow, Air Vehicles Directorate

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — The Air Force Research Laboratory's Air Vehicles Directorate has completed performance testing of the More Electric Aircraft Technology Validation (MTV) program, a research and development project supporting the AFRL's More Electric Aircraft Initiative.

The Air Vehicles Directorate examined the feasibility of using fiber optics in control systems, a concept known as Fly-By-Light (FBL). Researchers evaluated the effects of incorporating fiber optics into an Electrical Mechanical Actuator, a control system component. Data collected verified that using fiber optics did not negatively impact the performance of the actuators. Contractors, Northrop Grumman Corporation, BAE Systems, and Dynamic Controls Inc., will release the MTV program final reports next month.

In the future, FBL technology will rival the mechanical and fly-by-wire control systems used in today's vehicles. The ongoing research in FBL is validating potential benefits, such as: reducing weight, increasing reliability, and reducing operating and support costs. Because FBL is inherently immune to electromagnetic interference, scientists are developing it to protect control systems against the effects of lightning and high intensity radiated fields. This research supports requirements for future unmanned air vehicle systems, space access platforms, and future strike platform applications. @